stations, and a daily ice summary and forecast issued through the medium of bulletins, radio, telegraph, telephone and newspapers. It is hoped and expected that the new service will be of great value to those interested.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC DRAINAGE					
	Feet			*Feet*	
Saluda: Chappells, S. C.	14	30	30	14.3	30
James: Columbia, Va.	18	27	28	21.0	28
Roanoke: Weldon, N. C.	30	29	(1)	35.7	30
EAST GULF DRAINAGE					
Coosa: Gadsden, Ala.	22	28	(1)	23.9	29
Cahaba: Centerville, Ala.	25	26	26	26.5	26
Black Warrior: Lock, No. 10, Tuscaloosa, Ala.	46	25	(1)	61.8	26
Tombigbee:					
Aberdeen, Miss.	33	25	(1)	39.2	27
Columbus, Miss.	33	27	31	34.4	28
Lock, No. 4, Demopolis, Ala.	39	26	(1)	66.3	Jan. 5
Pearl:					
Edinburg, Miss.	21	31	(1)	(2)	
Jackson, Miss.	20	30	(1)	(2)	
MISSISSIPPI DRAINAGE					
Ohio:					
Dam, No. 44, Leavenworth, Ind.	48	28	(1)	50.8	30–31
Cloverport, Ky.	40	28	(1)	42.8	31
Evansville, Ind.	35	27	(1)	(2)	
Dam, No. 48, Cypress, Ind.	35	28	(1)	(2)	
Mount Vernon, Ind.	35	28	(1)	(2)	
Shawneetown, Ill.	35	29	(1)	(2)	
Guyandotte: Logan, W. Va.	20	22	22	20.2	22
Big Sandy, Levisa Fork: Pikeville, Ky.	35	22	22	41.3	22
Kentucky:					
Hazard, Ky.	20	21	21	25.0	21
Beattyville, Ky.	30	22	23	40.1	22
		26	26	30.6	26
High Bridge, Ky.	30	25	27	34.8	26
Frankfort, Ky.	31	25	29	36.0	26
Green-Big Barren:					
Bowling Green, Ky.	20	22	29	36.5	23
Munfordville, Ky.	28	23	28	36.9	24
Lock, No. 6, Brownsville, Ky.	30	23	(1)	42.5	26
Lock, No. 4, Woodbury, Ky.	33	22	(1)	49.3	27
Lock, No. 2, Rumsey, Ky.	34	25	(1)	42.3	31
Cumberland: Williamsburg, Ky.	22	22	29	26.5	26
Burnside, Ky.	50	22	23	56.3	22
		25	27	59.3	26
Celina, Tenn.	45	23	Jan. 2	57.2	29
Carthage, Tenn.	40	23	Jan. 4	59.1	30
Nashville, Tenn.	40	22	Jan. 7	56.2	Jan. 1
Clarksville, Tenn.	46	22	Jan. 9	60.0	Jan. 2
Lock, F, Eddyville, Ky.	57	26	Jan. 11	68.5	Jan. 5
Tennessee:					
Knoxville, Tenn.	12	26	30	14.0	29
Rockwood, Tenn.	20	25	30	25.2	27
Chattanooga, Tenn.	33	26	(1)	38.4	29–30
Bridgeport, Ala.	24	27	(1)	28.3	30
Guntersville, Ala.	31	27	(1)	38.3	30
Decatur, Ala.	21	29	(1)	23.2	Jan. 1
Florence, Ala.	18	25	(1)	26.6	29
Riverton, Ala.	33	25	(1)	(2)	
Savannah, Tenn.	40	27	(1)	(2)	
Johnsonville, Tenn.	31	27	(1)	(2)	
Holston, N Fork: Mendota, Va.	8	22	22	16.2	22
Big Pigeon:					
Newport, Tenn.	6	26	26	7.3	26
		29	29	6.2	29
Rogersville, Tenn.	14	23	23	15.0	23
Clinch:					
Speers Ferry, Va.	20	22	22	22.0	22
Clinton, Tenn.	25	23	28	32.3	24
Little Tennessee: McGhee, Tenn.	20	26	26	20.2	26
Hiwassee: Charleston, Tenn.	22	29	29	22.9	29
Elk: Fayetteville, Tenn.	14	24	(1)	4 25.8	28
Duck: Columbia, Tenn.	30	25	30	35.6	27
Illinois:					
Henry, Ill.	10	(3)	16	14.5	Nov. 22
Peru, Ill.	14	(3)	26	19.9	Nov. 19
Peoria, Ill.	18	(3)	11	21.0	Nov. 23–24
Havana, Ill.	14	(3)	27	18.6	Nov. 29–30
Beardstown, Ill.	14	(3)	31	20.4	Nov. 29–30
Pearl, Ill.	12	(3)	27	16.4	Nov. 30
Black: Corning, Ark.	11	23	(1)	(2)	
Little Red: Dam, No. 1, Judsonia, Ark.				30.0	22–23
Arkansas: Yancopin, Ark.	29	25	(1)	(2)	
Tallahatchie: Swan Lake, Miss.	25	30	(1)	(2)	
Yazoo: Greenwood, Miss.	36	30	(1)	(2)	
Sulphur:					
Ringo Crossing, Tex.	20	21	26	27.1	22
Finley, Tex.	24	24	(1)	29.0	26
Little: Whitecliffs, Ark.	28	23	25	28.9	24
Ouachita:					
Arkadelphia, Ark.	18	22	23	22.5	22
Camden, Ark.	30	24	(1)	38.5	25
WEST GULF DRAINAGE					
Trinity:					
Trinidad, Tex.	28	23	23	28.0	23
		25	Jan. 1	30.9	29–30
Liberty, Tex.	25	28	31	25.4	28

[1] Continued at end of month.
[2] Crest occurred after end of month.
[3] Continued from last month.
[4] Estimated.

MEAN LAKE LEVELS DURING DECEMBER, 1926

By UNITED STATES LAKE SURVEY

[Detroit, Mich., January 4, 1927]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes [1]			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during December, 1926:	*Feet*	*Feet*	*Feet*	*Feet*
Above mean sea level at New York	601.68	578.26	571.45	245.42
Above or below—				
Mean stage of November, 1926	−0.07	+0.04	−0.07	+0.18
Mean stage of December, 1925	+1.43	+0.72	+1.06	+0.87
Average stage for December, last 10 years	−0.34	−1.35	−0.08	+0.23
Highest recorded December stage	−1.45	−4.32	−2.08	−2.19
Lowest recorded December stage	+1.43	+0.72	+1.06	+1.99
Average departure (since 1860) of the December level from the November level	−0.27	−0.22	−0.08	−0.09

[1] Lake St. Clair's level: In December, 1926, 574.05 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, DECEMBER, 1926

By J. B. KINCER

General summary.—The first part of the month over the northern section of the country was generally unfavorable for outdoor work and seasonal farm operations made little progress. The frequent snows during this period hampered movement of crops to market, but they were favorable in protecting the grain fields against the cold waves which overspread northern areas. In the South, however, the weather permitted farm work to proceed practically unimpeded and winter crops and outdoor operations made good advance.

About the middle of December precipitation was heavy over some eastern districts, but more moisture was still generally needed in most southeastern areas. In the northwest a continuation of cold weather and high winds was unfavorable for livestock, but the frozen ground in the interior valley States made conditions better for gathering the corn that was still out.

Toward the latter part of the month precipitation was was heavy and in some places excessive over the lower Ohio and Mississippi Valleys, with much flooding, and much sleet and glaze was reported from the upper Ohio Valley and Lake region. Rains were beneficial in the Middle Atlantic States, but elsewhere the heavy precipitation prevented seasonal farm operations and caused some local damage. A good snow cover for winter grains and grass wasreported from most sections and much of the western range was covered. The coldest weather of the season was experienced in some parts of the Great Basin and some injury by cold was indicated from the South.

Small grains.—In the more northern districts east of the Great Plains winter wheat was generally well protected by snow during most of December, but in some western sections the ground was mostly bare. The absence of a good snow cover during the cold wave the second week caused some anxiety, but apparently no material harm resulted. In the southwestern sections of the Wheat Belt there was a continued absence of moisture and some injury resulted to the crop by drifting soil. The mostly mild weather in the South was generally favorable for winter grain crops.

Corn.—During the first part of the month husking and cribbing corn made slow progress due to the continued wet fields and mostly unfavorable weather. There was considerable of this work remaining to be done and husking did not get well under way until the third week, when frozen ground facilitated operations. Cribbing was

practically completed in the central Great Plains, but some corn remained to be cribbed in Missouri at the close of the month and some remained out in other sections.

Cotton.—Picking and ginning cotton made generally good progress in the Cotton Belt until the rains in the northwestern portion, where considerable cotton remained out at the beginning of December. Frequent rains during the second week made continued unfavorable conditions and there was further damage to staple, particularly in the northwest. During the latter part of the month picking the remaining crop made generally slow advance due to wet fields and continued rains and much cotton was reported pounded out by sleet and rain; considerable cotton remained in the fields in the northwest at the close.

Miscellaneous crops.—Pastures remained poor in some sections of the East, but the range continued in about normal condition in the more western districts with ample snow for water reported in some areas and other sections open. Heavy feeding continued in some portions, but others, especially the northern Great Plains, had favorable weather and livestock were able to range freely. Winter truck continued to do well in most districts, although there was some slight injury by frost. Citrus did well generally and no harm was reported, although it was somewhat too warm for this crop in Florida.

CLIMATOLOGICAL TABLES [1]

CONDENSED CLIMATOLOGICAL SUMMARY

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Condensed climatological summary of temperature and precipitation by sections, December, 1926

Section	Temperature								Precipitation					
	Section average	Departure from the normal	Monthly extremes						Section average	Departure from the normal	Greatest monthly		Least monthly	
			Station	Highest	Date	Station	Lowest	Date			Station	Amount	Station	Amount
	° F.	° F.		° F.			° F.		In.	In.		In.		In.
Alabama	52.0	+4.7	Evergreen	87	12	5 stations	15	[2] 16	5.92	+1.07	Florence	14.59	Silverhill	1.11
Arizona	43.4	−1.1	2 stations	85	1	Springerville	−28	27	3.02	+1.69	Crown King	11.53	Lewis Springs	0.45
Arkansas	43.3	+0.8	2 stations	79	[2] 4	Mammoth Spring	−3	26	7.15	+3.10	Portland	12.43	Gilbert	2.53
California	45.3	−0.8	King City	89	1	Helm Creek	−15	25	2.38	−1.79	Cuyamaca	16.52	Haiwee	0.00
Colorado	23.5	−1.4	4 stations	75	[2] 2	Hermit	−41	24	1.09	+0.07	Cascade	4.12	Garnett	0.04
Florida	68.7	+4.1	2 stations	89	[2] 15	Arcadia	23	31	0.99	−2.10	DeFuniak Springs	2.95	Everglades	0.05
Georgia	51.7	+4.1	Alapaha	85	13	Blue Ridge	12	3	3.89	−0.37	Blue Ridge	13.22	Savannah	0.77
Idaho	25.7	−0.2	Glenns Ferry	64	1	Stanley	−37	14	1.82	−0.11	Roland	4.88	Lifton	0.12
Illinois	29.1	−1.4	Harrisburg	68	3	3 stations	−9	14	1.41	−0.85	Cairo	4.15	Elgin	0.40
Indiana	29.9	−2.2	Marengo	67	3	Cambridge City	−9	30	1.96	−0.94	Rome	4.45	Farmersburg	0.74
Iowa	21.9	−2.2	Chariton	58	1	2 stations	−21	14	1.06	−0.08	Forest City	2.42	Chariton	0.28
Kansas	31.8	+0.3	Lakin	77	2	2 stations	−14	15	0.90	−0.03	Columbus	2.97	Bazaar	0.13
Kentucky	37.8	+0.2	Williamsburg	75	13	Hindman	5	16	6.01	+1.93	Burnside	11.31	Lockport	2.73
Louisiana	56.7	+4.9	Schriever	86	9	Robeline	15	16	5.84	+0.66	Monroe	13.71	Burrwood	0.96
Maryland-Delaware	32.1	−3.0	Newburg, Md	62	8	Oakland, Md	−16	18	3.19	−0.10	Oakland, Md	5.73	Keedysville, Md	2.16
Michigan	22.0	−3.0	Monroe	54	13	2 stations	−33	18	1.57	−0.53	Painesdale	3.60	Harbor Beach	0.62
Minnesota	11.0	−4.0	Lynd	50	11	Hallock	−36	14	0.99	+0.26	Grand Marais	1.95	Alexandria	0.17
Mississippi	51.7	+3.9	Poplarville	85	9	Holly Springs	14	16	9.49	+4.16	Water Valley	19.35	Pearlington	2.20
Missouri	32.6	−1.3	2 stations	75	4	Greenville	−12	26	2.18	+0.15	New Madrid	6.74	Saint Charles	0.55
Montana	21.4	−0.5	Sun River Canyon	74	10	Conway's Ranch	−36	14	0.79	−0.13	Hebgen Dam	3.74	2 stations	0.05
Nebraska	25.0	−0.8	2 stations	70	2	Hay Springs	−25	15	0.63	−0.11	Walthill	1.60	Arcadia	0.00
Nevada	30.6	−1.2	Alamo	75	1	San Jacinto	−24	24	0.66	−0.28	Lamoille	1.81	2 stations	0.14
New England	21.4	−5.0	North Grovenor Dale, Conn.	55	1	Garfield, Vt.	−21	5	2.93	−0.42	Colchester, Conn	5.21	Cornwall, Vt	0.95
New Jersey	28.4	−4.4	2 stations	52	[2] 1	Somerville	−7	7	3.44	−0.54	Chatham	4.74	Layton	1.67
New Mexico	33.0	−0.3	Pastura	83	1	Elizabethtown	−34	25	1.53	+0.73	Cloverdale	5.94	Miami	0.18
New York	21.0	−4.7	Ohioville	61	14	Philadelphia	−32	18	2.41	−0.57	Philadelphia	4.99	Andover	0.86
North Carolina	43.8	+1.3	Chadbourn	77	25	2 stations	7	19	4.17	+0.28	Andrews	13.12	New Holland	1.13
North Dakota	9.2	−3.8	Grafton	55	29	Dunseith	−36	14	0.57	+0.03	Fort Yates	1.50	Maddock	0.10
Ohio	29.5	−1.8	3 stations	68	13	Millport	−11	18	2.38	−0.48	Dam No. 28	4.94	Catawba Island	1.23
Oklahoma	40.3	+1.2	Waurika	84	3	Hooker	−4	15	2.92	+1.35	Smithville	7.66	Kenton	0.52
Oregon	34.2	+0.2	Cottage Grove	73	17	Ukiah	−26	14	3.93	−0.45	Bull Run Lake	17.94	Andrews	0.44
Pennsylvania	27.3	−3.8	Uniontown	62	13	West Bingham	−20	7	2.58	−0.65	Unity Reservoir	4.61	Lloyd	0.90
South Carolina	48.7	+2.1	Georgetown	82	22	Caesar's Head	13	[2] 16	3.59	+0.12	Caesar's Head	8.00	Summerville	0.69
South Dakota	19.2	−0.6	Bellefourche	66	31	Oelrichs	−30	14	0.39	−0.21	Milbank	1.42	Ottumwa	T.
Tennessee	41.7	+1.1	Etowah	74	13	Tazewell	4	16	10.69	+6.31	Madison	15.57	Embreeville	4.85
Texas	49.8	+0.0	Mission	89	4	2 stations	3	[2] 13	4.01	+1.85	Rockland	11.60	O 2 Ranch	0.42
Utah	25.9	−0.6	Springdale	73	1	Castle Rock	−25	15	1.15	−0.04	Big Plains	4.65	2 stations	T.
Virginia	36.8	−1.5	Diamond Springs	70	26	4 stations	0	[2] 18	4.88	+1.74	Mendota	9.24	Mount Weather	1.79
Washington	32.0	−0.1	Centralia	69	1	Cle Elum	−15	14	5.04	−0.87	Forks	18.83	Quincy	0.58
West Virginia	33.9	+0.3	Williamson	72	3	2 stations	−14	18	5.10	+1.59	Pickens	10.57	Vandalia	1.65
Wisconsin	16.3	−3.9	2 stations	51	[2] 12	Prentice	−31	25	1.55	+0.21	Plum Island	3.02	Beloit	0.53
Wyoming	21.1	+0.3	Wheatland	68	2	Riverside	−49	14	0.51	−0.29	Dome Lake	1.82	Powell	0.01
Alaska [November]	30.5	+6.3	Hydaburg	63	7	Fort Yukon	−41	30	4.38	−2.75	Latouche	23.23	Fort Yukon	0.03
Hawaii	71.9	+2.0	Waianae	91	8	Volcano Observatory	46	31	5.64	−3.84	Hiloa - Manawaiopuna Divide	32.00	Kaanapali	T.
Porto Rico	74.7	+0.1	2 stations	94	[2] 9	2 stations	52	[2] 26	2.30	−2.32	Barros	6.79	Ponce	0.05

[1] For description of tables and charts, see REVIEW, January, 1926, page 32.

[2] Other dates also.